

A NOTE ON REARING *ZERYNTHIA POLYXENA*
D. & S. AND *ZERYNTHIA RUMINA* L.

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In their interesting paper on the Lepidoptera of the Cevennes (*Ent. Rec.*, 94: 134-138), Dr. J. S. E. Feltwell and Mr. G. N. Burton described their experiences with *Zerynthia polyxena* D. & S. and their subsequent difficulties with finding suitable *Aristolochia* species on which to feed their captive larvae after their return to Britain. I have every sympathy with their predicament as I had very similar problems several years ago.

In April 1978 I found *Z. polyxena* flying quite commonly in a damp flowery meadow on the edge of the Forêt de Dom, Var. A search of the trumpet-flowered plants of *Aristolochia rotunda* L. soon revealed several ova and I also persuaded a captive female to deposit a dozen more. Most of these hatched after about seven days and I kept the young larvae in airtight plastic boxes in which they seemed to thrive quite well. Just before our return to Britain I collected a supply of *Aristolochia rotunda*, keeping it in closed polythene bags during our journey and merely putting the stems in water after our arrival home. The food plant lasted surprisingly well under these conditions and on this alone the pinkish-orange spined larvae attained their last instar. At this stage however it was obvious that the cut supply of *Aristolochia rotunda* was not going to suffice much longer. Fortunately a friend, Mr. John McFeely, located a plant of *Aristolochia pistolochia* L. at this critical point. I also eventually obtained a good supply of growing *Aristolochia clematitis* L. (which I have providently grown in the garden ever since) and the *polyxena* larvae took readily to both these species of birthwort. Larval progress seemed very slow in the final instar but nine examples pupated successfully, attaching themselves from stalks of the *Aristolochia* in the manner of *Papilio machaon* L., but with the silk girdle around the apical horns instead of the thoracic segments. All these pupae hatched in mid-April the following year and on emergence the imagines demonstrated a rather curious habit. Before expanding their wings they were extraordinarily active, wandering all over the netting cage in jerky movements, sometimes falling onto the floor, then immediately climbing up to the top again. This almost feverish activity took about fifteen minutes before they finally settled down at the top of the cage to expand their wings — long after I had given up hope and expected them to be crippled.

In view of this observation regarding *Z. polyxena* I was most interested to observe the same characteristic exhibited by the closely related *Zerynthia rumina* L. This butterfly, incidentally, I find a very much more difficult species to rear. The larvae seem to thrive

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only on *Aristolochia pistolochia* — itself a somewhat difficult plant to grow in Britain. *Rumina* larvae will eat *A. clematidis* but then appear to sicken and die. From fifteen half grown larvae collected in the Serrania de Cuenca in central Spain in 1982 I obtained only two pupae. One of these died before the winter but the other emerged in June 1983. It still had not expanded its wings after a full 17 minutes of rapid perambulation around the cage and I then had to leave for the morning surgery for which I was already ten minutes late! On returning three hours later however, the butterfly was flying in the cage with perfectly formed wings.

It is difficult to understand the biological advantages of this characteristic in the two *Zerynthia* species. Rapid continuous movement surely attracts predators at a stage when a butterfly is flightless and at its most vulnerable. Whereas *Z. polyxena* inhabits damp meadows, *Z. rumina* usually occurs on dry rocky hillsides and the two species rarely fly on the same ground. A common environmental advantage therefore seems unlikely. Can anyone suggest a hypothesis for this curious activity?

FRASS DISPOSAL BY LARVAE OF THE VESTAL: RHODOMETRA SACRARIA L. — Although *Rhodometra sacraria* turned up in so many places during 1983 I was not fortunate enough to take any specimens myself. However, I was given a few eggs and from these I reared a very nice series.

The larvae were kept in plastic boxes, the size of which was increased as the larvae grew. I never observed the larvae to leave their food plant (at first, Knotgrass: *Polygonum aviculare* L.) and yet the frass was always either on the sides or the lid of the box, mainly the latter. One evening I decided to watch the larvae to see if I could discover how this came about and was fascinated to observe that as the frass appeared it did not drop as would be expected but remained attached to the anal claspers. Within seconds the larvae were seen to reach round sideways and somehow take hold of the frass, probably with their thoracic legs rather than with their mandibles, but of this I could not be sure, and with a quick straightening of the body hurl the frass away.

When the caterpillars were nearly fully grown I transferred them on to dock. The droppings became more moist but the same habit persisted and although the paper tissues lining the bottom of the box remained fairly clean the lid soon became very soiled. The reason for this behaviour puzzles me. Is it to dispose of tell-tale droppings from the eyes of predatory creatures, to prevent fouling of the food plant or for some other reason? I should be interested to learn whether this habit has been observed before and if so, whether it is peculiar to The Vestal. — G. E. HIGGS, The Cottage, Willen, Milton Keynes.